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2005

### **document version**

Publisher's PDF, also known as Version of record

[Link to publication in VU Research Portal](#)

### **citation for published version (APA)**

Joubert, A., Gilbert, A. J., Matthee, J., Stewart, T. J., Janssen, R., de Vries, J. S., Scott, L., & van Herwijnen, M. (2005). *Local ecological knowledge and training as tools for empowerment and fisheries management in South Africa's Werstern Cape*. (PREM Policy Brief; No. no7). Instituut voor Milieuvraagstukken.

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## Local ecological knowledge and training as tools for empowerment and fisheries management in South Africa's Western Cape.

### Overview

Due to a combination of i) over-exploitation of marine resources, ii) insufficient access to fishing rights and iii) a lack of alternative livelihood opportunities, the coastal communities of South Africa's Western Cape have lost both social and economic stability. Significant changes in fisheries management and the fishing rights allocation system have occurred since the end of the apartheid era; however, complementary policies to support fishers in dealing with these developments have been lacking. In particular, Total Allowable Catches (TACs) have been reduced in precisely the fisheries of greatest significance to local communities, and fishers are struggling to cope with this reduced resource availability.

The west coast rock lobster fishery is of specific importance to Western Cape communities, as it does not require high capital equipment. Using this fishery as a case study, researchers examined the value of local ecological knowledge in the management of marine resources, both in terms of improving sustainability and helping empower fishing communities. A greater emphasis on partnerships between fishers, policy makers and scientists could help generate a sense of local 'ownership' of management policies and supply scientists with valuable fisheries data.

Fishers could be further empowered through training opportunities, which would i) assist them in obtaining and using fishing rights and ii) help them take advantage of other livelihood opportunities where fishing is no longer viable. This will be vital for both sustainable fisheries and poverty alleviation in South Africa. Issues relating to South Africa's fishing rights allocation system are addressed in Policy Brief no. 6.

This policy brief is based on the PREM Project Report, 'Fishing rights and small-scale fishers: An evaluation of the rights allocation process and the utilisation of fishing rights in South Africa' by Alison Joubert, Alison Gilbert, Josette Matthee, Theodor Stewart, Ron Janssen, Linda de Vries, Leanne Scott and Marjan van Herwijnen. The full report is available online at: [www.prem-online.org](http://www.prem-online.org)



### Study Area

South Africa's fisheries yields peaked in the 1960s and 1970s, but since then many stocks have declined due to over-exploitation. Although the commercial fishing industry has historically been dominated by a few white-owned companies, following the end of apartheid new policies were introduced to rectify this inequitable distribution of fishing opportunities and improve the sustainability of fisheries. While the fisheries sector only accounts for 0.5% of GDP, access to fisheries resources can be critical for local livelihoods. This is particularly the case in South Africa's Western Cape, where most of the country's small-scale, non-white fisheries are developed. Commercial exploitation also has a strong presence here: this region's fisheries account for around 90% of the total national fisheries value. Two fishing communities in the Western Cape are the focus of this study: Hawston/Hermanus and Kalk Bay.

## Issues facing policy-makers:

- **What is the value of local ecological knowledge in terms of i) fishers' empowerment and ii) better fisheries management in South Africa?**
- **How can local communities be better integrated into the fisheries management process?**
- **How could training opportunities assist fishers in obtaining and using fishing rights and help them take advantage of other (non-fishing) livelihood options?**

## The value of local knowledge: a case study of the west coast rock lobster fishery

West coast rock lobster (*Jasus lalandii*) has been exploited in South Africa since the 1800s. Catches have declined in recent decades, yet now show signs of recovery (see figure 1). Although TACs have been reduced to conserve stocks, the number of small-scale quota holders has been increased in an effort to more equitably redistribute access to this resource. Despite this, poor relations remain between local fishers and the Government's Marine and Coastal Management Directorate (MCM). This is a consequence of the difficulties in gaining fishing rights and the incapacity of quotas to support local communities (due to their small size and the seasonal nature of the fishery). These fishers could be empowered, and the west coast rock lobster fishery better managed, if local ecological knowledge (a mixture of "lore", practical and scientific knowledge) was integrated into the management system. Benefits of this integration are envisaged to be environmental, social and economic in nature:

- **Environmental:** Fishers are knowledgeable about the west coast rock lobster stock, and are able to offer local insights not available to scientists. These include the specific timing of life cycle stages which could help the MCM better protect gravid females.
- **Economic:** Local fishers have a detailed understanding of multi-fishery interactions and minimum viable quotas. This information could be

used by the MCM to improve decisions on quota sizes and on the relationships between access rights in different fisheries.

- **Social:** The use of local knowledge in fisheries management is empowering to fishers. Fishers who had been involved in the management of the west coast rock lobster stock (in a recent 'experimental' fishery) had felt their contributions were valued. This had positive implications for their acceptance of the management regime.

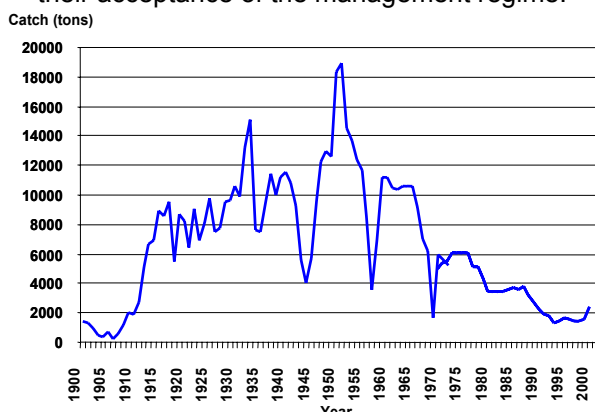


Figure 1: Catch data for the west coast rock lobster since 1900

## How can training further empower fishing communities?

A key part of improving the socio-economic stability of fishing communities in the Western Cape involves ensuring that fishers are sufficiently empowered to gain access to *fishing rights*, and make best use of those rights once allocated. This can partly be addressed through policies that provide better training and support to these impoverished, 'historically disadvantaged' groups. Guidance to enable community members to pursue *other (non-fishing) livelihood options* is also required.

**Attaining fishing rights:** access and utilisation. South Africa's fishing rights allocation system has undergone significant changes since the end of apartheid (see Policy Brief No. 6). The application forms associated with the new system (2001-2004) are complex, requiring more than the basic educational level attained by most local fishers. In addition to the post-apartheid goal of resource redistribution, the Government has prioritised greater economic growth and development. This has resulted in fishers having to demonstrate business skills and the financial viability of their



operations, before being allocated rights. These new approaches demand specific skills that small-scale fishers will need in order to compete effectively in this sector.

**Alternative livelihood opportunities:** Individuals who i) do not currently hold rights in South Africa's fisheries, ii) were not previously involved in fishing and/or iii) do not have access to a vessel are unlikely to obtain rights. This is simply a consequence of the limited number of rights available. Although rights can be bought from those moving out of the fishery, most small-scale fishers cannot afford this. Crewing on other fishers' vessels remains one way to generate income, yet it is not an option for all community members. This, combined with an already heavily exploited marine resource base, means that other livelihood options need to be explored. Diversifying the local economy would provide more stability and social cohesion: at the moment several communities are divided into 'rights-holder/non-rights-holder' camps. Training and support will be imperative for communities to enter and profit from alternative sectors.

### Policy recommendations

The 'chopping and changing' of approaches to rights allocation over the last decade, as well as reduced TACs for stocks of most relevance to local communities, have had severe socio-economic consequences in South Africa's Western Cape. Fishing communities can be empowered in two fundamental ways:

#### Integrating local ecological knowledge into fisheries management

Local knowledge can play a constructive role in fisheries management and the empowerment of fishers; as such, its use should become a priority

for the MCM. Local knowledge and shared norms of resource protection may be lost as designated fishers change following each allocation episode. Not only does this have negative implications for sustainable management, it also leaves society as a whole poorer. Therefore emphasis must be placed on sustaining the local knowledge base wherever possible.

This policy change has most relevance for small-scale fisheries, such as the west coast rock lobster fishery. As a starting point, the MCM and fishers could jointly conduct pre-season surveys to assess stock condition. In this way, local fishers could help define and provide a knowledge base for management of the resource, as well as helping to implement goals. Their 'ownership' of management objectives would make reaching these more likely.

Some difficulties arise when integrating local fishers into a management framework. Firstly, fishers need to feel acknowledged for their help, and their input has to be consistently valued over the long term. Secondly, decisions have to be made in genuine collaboration with fishers, to avoid their subsequent alienation. This may require a major restructuring of the institutional and organisational arrangements supporting management. If these issues can be overcome, a successful co-management\* regime can begin to be developed (see figure 2).

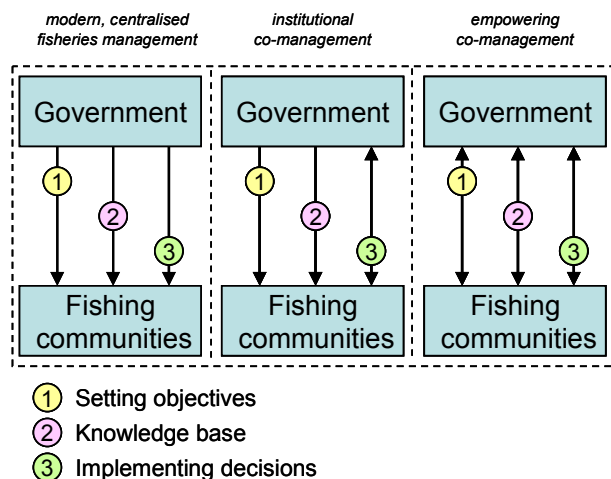


Figure 2: A comparison different management regimes

\*Co-management in this study does not refer to community management, but rather to joint management by a national or regional responsible authority and fishers.

### Providing training opportunities

Fishing communities have asked that the MCM provide appropriate training and support in relation to completing fishing rights applications, developing entrepreneurial skills and writing business plans. Without this training, the MCM cannot achieve its goals of transformation and economic growth, at least not in a way which benefits impoverished and poorly educated fishers. Viable local fisheries need viable fishing communities as well as viable stocks. However, there are legal barriers to the provision of this kind of advice at present. An immediate solution might be to improve the MCM's communication system, with appropriate information being made more widely and easily accessible to stakeholders.



Over-exploited stocks mean that fisheries can no longer provide viable livelihoods for all coastal residents. Fishing communities therefore need assistance to pursue alternative livelihood options, such as other fishing-related activities (e.g. processing, marketing, aquaculture and mariculture) and tourism (e.g. whale watching and recreational fishing). To enter and succeed in these industries will require specialised education and skills development. Above all, mentoring in business and technical skills (such as computing, internet access, business plan development and basic legal knowledge) will be invaluable. Training should be particularly directed at the younger generation if the long-term socio-economic stability of these communities is to be ensured.

### PREM: In brief

The Poverty Reduction and Environmental Management (PREM) programme aims to deepen and broaden the exposure of economic researchers and policy advisors in Africa and Asia to the theory and methods of natural resource management and environmental economics. It is anticipated that this will encourage policy changes that address both poverty reduction and sustainable environmental management.

**This policy brief is an output of a research project funded by PREM. The views expressed herein are not necessarily those of PREM or its sponsors.**

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